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UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--EFFECT OF TERTIARY AMINES AND QUATERNARY AMMONIUM SALTS ON THE
INTERFACIAL POLYCONDENSATION OF 2,2-BIS(4-HYDROXYPHENYL)PROPANE AND
AUTHOR--(03)--SMIRNOVA, O.V., KHORVAT, E., LOSEV, I.P.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970, 12(2), 424-9

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMERIZATION RATE, HYDROXYL RADICAL, BENZENE DERIVATIVE,
PROPANE, PHOSGENE, INTERFACIAL POLYCONDENSATION, SURFACE ACTIVE AGNET,
POLYCARBONATE, TERTIARY AMINE, QUATERNARY AMMONIUM SALT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/0249

STEP NO--UR/0459/70/012/002/0424/0429

CIRC ACCESSION NO--AP0106905

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0106905

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLYM. RATE OF (4-HOC SUB6 H SUB4) SUB2 CME SUB2 WITH COCL SUB2 IN ALK. SOLN. IS ACCELERATED BY ADDN. OF ET SUB3 N, PHNET SUB2, PHNICH SUB2 PH) SUB2, PHCH SUB2 NET SUB3 CL, OR TRIETHYLOCTADECYLAMMONIUM CHLORIDE. THESE COMPOS. ACT NOT ONLY AS SURFACE ACTIVE AGENTS PROMOTING POLYM. AT THE INTERFACE BETWEEN ALK. AND ORG. PHASES, BUT ALSO FORM SOL. SALTS, SUCH AS R SUB4 N PRIME POSITIVE (4-OC SUB6 H SUB4 CME SUB2 C SUB6 H SUB4 Q SUB2 C) SUBN CL, WHICH REACT FURTHER WITH THE GROWING POLYCARBONATE IN THE AQ. PHASE AWAY FROM THE INTERFACE. ADDN. OF THESE COMPOS. INCREASES THE MOL. WT. OF THE POLYCARBONATES.

UNCLASSIFIED

USSR

UDC 612.017.2.014.43/.44

LEVIN, G. S. and KHORVAT, G. N., Uzbek Institute of Hematology and Blood Transfusion

"Relationship Between Autoimmunization and Adaptation to Repeated Overexposure to the Sun"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 2, 1973, pp 67-69

Abstract: Ten dogs were exposed to the sun daily for 15 days (40.0 to 40.5°) in two successive summers. Changes in the peripheral blood and immunological parameters were minor the first year. But the second year it took 20 to 30 min longer to overheat the body (due to adaptation to high temperatures) and most of the animals developed leukopenia and anemia. Also, the formation of auto-antibodies to erythrocytes was more pronounced the second summer. It would appear that the autoimmune mechanisms involved in the pathogenesis of sun-induced lesions do not participate in the adaptation process.

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USSR

UDC 669.71.48(088.8)

BELETSKIY, G. V., GRAFAS, N. I., KHORYAK, A. K., SHAGALOVA, B. Yu.,
SHAFARENKO, A.I., and ZVEREV, S. N.

"Device for Extraction of Non-Oxidized Metal From Hot Furnace Skim"

USSR Author's Certificate No 266213, Filed 17/06/68, Published 24/07/70,
(Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract
No 2 G172 P)

Translation: A device for the extraction of non-oxidized metals from hot
furnace skim formed during melting of secondary aluminum alloys is presented.
It consists of a cylindrical container with a perforated floor equipped with
a mixer located inside the container and rigidly fastened to a vertical
shaft. To allow rotation of the floor, it is freely supported on a hori-
zontal, eccentric axis fastened to the walls of the cylindrical container
and connected to a vertical member passing through the vertical shaft,
which is made hollow, so that it can move.

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USSR

UDC 621.382.9

KHORYAK, I. V. and SHIROBOKOVA, Ye. I.

"Study of Film Varicaps Based on Especially Pure Barium Titanyloxalate for Circuits for Control of the Intensity of Brightness of Electroluminophors"

Elektron. tekhnika. Nauch.-tekhn. sb. Materialy (Electronic Technology. Scientific-Technical Collection. Materials), 1970, Issue 8, pp 45-51 (from RZh-Elektronika i yeye primeneniye, No 9, September 1971, Abstract No 9B477)

Translation: The paper studies film varicaps with an increase of nonlinearity $K > 20$ based on barium titanyloxalate [titaniloksalata bariya] in combination with film luminophors. Computations are made of the optimum conditions of operation of varicaps in circuits. Experimental data agree with calculated and show that with films, the varicaps can produce a voltage drop at the luminophor of 8 times, which assures a high-contrast image. Use of luminophors and varicaps in film execution made it possible to reduce the control voltage substantially. Summary.

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USSR

UDC: 538.4

SOSHNIKOV, V. N., TREKHOV, Ye. S., and KHOSHEV, Yu. M.

"Theory of a High-Pressure Eddy Discharge"

V sb. Vopr. fiz. nizkoterperatur. plazmy (Problems in the Physics of Low-Temperature Plasmas--collection of works) Minsk, "Nauka i tekhn." 1970, pp 169-175 (from RZh-Mekhanika, No. 2, Feb 71, Abstract No. 2B4)

Translation: As a result of the machine solution of the differential equations of the electromagnetic field and heat conductivity for a large number of variants, the integral parameters of the discharge in air and in argon, as well as the radial temperature and field distributions (the unidimensional problem) are obtained. The presence of stable and unstable discharge modes is discovered, and the essential role played by radiation energy loss is noted. The available experimental data does not contradict the theory. Numerical solutions of the two-dimensional discharge problem with a blowing gas is obtained. Bibliography of 29. Author's abstract.

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USSR

UDC 621.396.933.2

BALANDIN, V. I., KIYLO, L. E., OKEANOV, Ye. N., KHOSID, S. R.

"An Automatic Keyer"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 33, Soviet Patent No 285067, class 21, filed 29 Aug 68, published 29 Oct 70, p 46

Translation: This Author's Certificate introduces an automatic keyer which contains a cadence pulse generator with frequency divider, a programmed decoder, a trigger-type direction-finding signal shaper, a reset circuit, an OR circuit with output connected to a switch in the supply circuit of the recognition signal decoder, a controlling device, and an output amplifier. As a distinguishing feature of the patent, to ensure universality in shaping the call signal and in the modes of operation, the keyer contains an additional OR circuit connected between the outputs of the recognition signal decoder and the input of the controlling device, as well as a mode switch whose inputs are connected to the programmed decoder while the outputs are connected to the above-mentioned controlling device and the reset circuit.

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USSR

UDC 537:226+537:311:33]:[537+535

KHOTCHENKOV, A. G.

"Tensors of Dielectric Permeability and Piezoelectric Moduli Near a Tetragonally Rhombic (II-III) Phase Transition in Monocrystals of Barium Titanate"

Uch. zap. Tyumensk. gos. ped. in-t., [Scientific Writings of Tyumen' State Pedagogics Institute], No 3, 1970, pp. 79-83, (Translated from Referativnyy Zhurnal Fizika, No 10, 1970, Abstract No 10 Ye 746 by V. Onkotskiy)

Translation: The change in all components of the tensors of dielectric permeability and piezomoduli of the tetragonal phase is determined theoretically near the phase transition, taking into consideration the influence of nuclei of the rhombic phase. It is shown that as T approaches Θ , where Θ is the phase transition temperature in the presence of an external electric field, the dielectric permeability increases, reaching the greatest value at $T = \Theta$. The absolute values of components of the piezoelectric modulus act similarly.

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USSR

K
UDC 621.372.837(088.8)

KOZLOV, V. I., STAVITSKAYA, G. S., KHOTENOVSKAYA, T. S., DVORKIN, O. E.

"Fast Superhigh Frequency Switch"

USSR Author's Certificate No 253880, Filed 23 Jul 69, Published 3 Mar 70
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B150P)

Translation: The proposed superhigh frequency switch is executed in the form of a T-junction on two arms of which varactor diodes with tuning loops are installed. In order to expand the operating frequency band, the external voltage is fed out of phase to two groups of diodes installed on each arm of the switch. The diodes of the first group are tuned to series resonance with a negative bias on the lower frequencies of the operating range, and the diodes of the second group, with positive bias on the upper frequencies of the operating range. There is one illustration.

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KHOTINSKAYA, V. D.

STUDY OF THE INTERMOLECULAR INTERACTION OF SMALL QUANTITIES OF FISH MUCUS AND DISTILLED WATER

Article by I. I. Kondratenko, V. Ye. Lebedev and V. D. Khotinskaya, Kiev: Kiev. Biokhimiya, Russian, No 3, 1971, Izd-vo "Naukova Dumka", pp 108-112

JPRS 55972
15 May 72

At present there are several different models of water structure under normal conditions explaining the appearance of molecular interactions in the water, its infrared absorption spectra and the spectra of combined scattering of light /4, 5, 7/.

All these models assert that there is a special kind of interaction among water molecules, hydrogen bonds. It has been established that with an increase in temperature and also with the dissolving of some substances in water (such as the biologically active compounds Vit. B₁, Vit. B₂ and others) there is a breaking of the hydrogen bonds. Such a break with an increase in temperature is accompanied by a decrease in viscosity and a change in the infrared absorption spectra and combination scattering.

The band in the combined scattering spectrum lying in the region 2700-4000 cm⁻¹ and having a complex structure is particularly sensitive to a temperature increase. This band consists of a number of combined scattering lines caused by intramolecular oscillations.

The band components can be interpreted in the following way /1/. The band maximum, situated near 3210 cm⁻¹ (Fig. 1), can be associated with the symmetric oscillation of water molecules bound to adjacent molecules by hydrogen bonds. With the breaking of these bonds one must expect a displacement of the maximum in the direction of the high frequencies, as is experimentally observed (Fig. 1) with a temperature increase. The maximum at 3450 cm⁻¹ belongs to the symmetric oscillation of

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UDC 539.376

GINDIN, I. A., KHOTKEVICH, V. I., NEKLYUDOV, I. M., LEBEDEV, V. P., and BOBONETS, I. I., Physicotechnical Institute, Academy of Sciences, Ukrainian SSR and Khar'kov State University imeni A. M. Gor'kiy

"Change in Nickel Dislocation Structure and Properties at Varying Loading Rates"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 32, No 1, Jul-Aug 71, pp 139-144

Abstract: Results of investigating the structural changes and properties of polycrystalline nickel in relation to rate and degree of pre-strain are presented. Pure nickel (99.996%) in the form of strip rolled at room temperature was used which was annealed at 900°C for one hour in a vacuum resulting in a grain size of 0.3 mm. Loading the samples was accomplished in a special unit at 200°C up to various degrees of strain with rates of 0.2 and 1×10^3 kg/mm²-hr followed by elongation at room temperature at the rate of 30 mm/sec. Electrical resistance was measured after cooling to 77°K. It was found that for relatively rapid rates of loading, principles governing change of resistance to deformation, electrical conductivity, and dislocation structure are observed which are normal for fcc crystals. For slower
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GINDIN, I. A., et al., Fizika Metallov i Metallovedeniye, Vol 32, No 1, Jul-Aug 71, pp 139-144

rates of loading, when diffusion processes play a substantial role, deviations from these principles are possible. Slow loading rates in the macro-elastic region promote diffusion redistribution of defects into energetically suitable points, promote coalescence of point defects, and promote formation of dislocation loops. These processes lower electrical resistance and increase yield strength upon subsequent strain of samples. Five figures, 21 bibliographic references.

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USSR

UDC 669.71':536.2:669-973

ZLOBINISEV, G. M., KOZINETIS, V. V., MERISOV, B. A., and KHOTKEVICH, V. I.,
Khar'kov University

"Heat Conductivity of Aluminum Alloys at Low Temperatures"

Moscow, Metallovedeniye, No 5, 1971, p 64

Abstract: The heat conductivity of the AD1, AL4, AK8, ATSM, AMr3, D16, and AMr6 structural aluminum alloys was investigated at temperatures of 10-300°K by measuring the conductivity up to the temperature of liquid nitrogen in 5-10°K intervals and then in 15-20°K intervals. The results are tabulated and shown in graphs of the temperature-dependent coefficient of thermal conductivity. One figure, one table, four bibliographic references.

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172 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ISOTHERMAL MEASUREMENT OF LIQUID AND SOLID PHASE SURFACE ENERGIES
-U-
AUTHOR--(02)--GLADKIKH, N.T., KHOTKEVICH, V.I. K
COUNTRY OF INFO--USSR
SOURCE--DOPOV. AKAD. NAUK UKR. RSR, SER. A 1970 32(2), 144-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SURFACE ENERGY, ISOTHERM, BISMUTH, MICA, GLASS, SODIUM
CHLORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0024 STEP NO--UR/0441/70/032/002/0144/0146
CIRC ACCESSION NO--AT0125864
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSIGN NO--AT0125864

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACCORDING TO EARLIER STUDIES, THIN FILMS OF VARIOUS SUBSTANCES MELT AT A LOWER TEMP. THAN THAT OF THE MASSIVE SPECIMEN (τ LESS THAN τ_{SUBS}). BY USING PUBLISHED EQUATIONS FOR DETG. THE CRIT. THICKNESS AT WHICH A FILM MELTS AT τ LESS THAN τ_{SUBS} AND FOR THE CHANGE IN THE SURFACE ENERGY DURING THE MELTING (B. YA. POINES, 1961), A METHOD WAS DEVELOPED FOR DETG. THE DIFFERENCE IN THE SURFACE ENERGIES OF SOLID AND LIQ. PHASE (σ_{SUB1} MINUS σ_{SUB2}) AND THEIR ABS. VALUES FROM DATA ON THE CRIT. FILM THICKNESS MEASURED ON VARIOUS SUBSTRATES AT A CONST. TEMP. FOR THE CASE OF COMPLETE NONWETTING OF THE SUBSTRATE BY THE FILM SUBSTANCE. FOR BI (σ_{SUB1} MINUS σ_{SUB2}) EQUALS 170 ERGS PER CM PRIME2 AT τ EQUALS 497 LESS THAN τ_{SUBS} EQUALS 544DEGREESK, AS DETD. FROM DATA ON CRIT. BI FILM THICKNESS MEASURED AT 497DEGREESK ON NaCl CRYSTALS, MICA, AND GLASS SUBSTRATES.

FACILITY: KHARKIV. DERZH. UNIV., KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 621.317.422.001.5

KHOTOMLYANSKIY, A. L., NALCHA, G. I., and BOGDANOVA, I. I.

"Study of Irregularities of Mechanical Properties and Liqutation of Chemical Elements in Low-Carbon Sheet Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4, Jul-Aug 70, pp 34-36

Abstract: Results are presented from studies performed on transverse templets taken from hot-rolled strips of 08KP steel. The studies indicated significant heterogeneity of mechanical properties and liqutation of chemical elements across the width of the strip, with good reliability of the calculated correlation coefficients. Analysis of the correlation coefficients between strength and content of each of the chemical elements C, Mn, S, P, and Al indicates significant positive dependence between strength and content of carbon, manganese, and aluminum. The dependence between the strength and the content of sulfur and phosphorus was found to be statistically unreliable. The dependence of yield point and relative elongation on the content of the chemical elements was found to be unreliable. A method is presented for calculating contact elastic flattening of rolls in one particular case of distribution of specific pressure over the width of a strip.

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Doc 621,774.80

BOCHAROV, V. F., SHOLOMYANSKIY, A. L., KUTKIN, A. M., PETROSEVICH, E. F., and
BOGDANOV, G. P., Zhdanov Metallurgical Plant Imeni Il'ich

"Effect of Straightening on the Changes in Mechanical Properties of Dressed
Cold-Rolled Sheet Steel"

Moscow, Stal', No 10, Oct 70, pp 921-923

Translation: The straightening of strips in the lines of transverse cutting
units leads to a change in the mechanical properties of cold-rolled dressed
steel. The tensile strength increases and the relative elongation, the depth
of hole extrusion according to Ericksen, the yield point, and the hardness de-
crease. The reduction of strip thickness brings about a reduction in the
efficiency of straightening according to mechanical properties.

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Acc. Nr:

AP0048344

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

UR 0065

102169r Separation of heterogeneous particles in a fluidized bed. Khotomiyanskii, L. N.; Brun-Tsekhevoi, A. R.; Katsobashvili, Ya. R.; Petrov, V. N.; Skoblo, A. I. (MINKh GP, Moscow, USSR). *Khim. Tekhnol. Topl. Masel* 1970, 15(1), 13-17 (Russ). The app. included 2 interchangeable glass columns of 78 and 147-mm inside diam. with gas-distribution grids of 68 and 105 mm diam., resp. and orifices of 0.8 mm; their free surfaces amounted to 3.8%. River sand as the heavy phase and heat carrier and Al silicate, on which metallic Ni was pptd. as the catalyst, had 0.63-0.85 and 0.25-0.315-mm grain size and d. of 2.65 and 1.30 g/cm³, resp. The height of the 2 beds varied from 70 to 100 and 130 to 190 mm, resp., according to the air velocity variation from 0.218 to 0.435 m/sec. The beds obtained in the reactor models had 5 zones differing in their compn. and structure and the sepn. mechanism occurring in them. The upper zone, contg. 80-98% of the catalyst, was the greater and the heat carrier settled. The 2nd zone contained <1% of the catalyst. In the 3rd zone above the grid, the catalyst concn decreased slowly. In the 4th zone at the level of the grid, the catalyst concn. decreased somewhat more intensively.

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The lower zone below the grid, with higher flow velocity, was the venting zone. The field of the concns. depended on the filtration velocity, height of the moving heat-carrier bed, and fluidization coeff. of the latter. The sepn. of the catalyst particles depended significantly on the entrainment of the heat-carrier bed by the gas stream. A high sepn. of the catalyst was obtained up to a concn. of 0.001%. The exptl. app. and results are presented graphically.

GGJR

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UDC: 621.375.421.001.5:621.3

TAMARCHAK, D. Ya., ~~KHOTUNTSEV, Yu. I.~~

"Computer Synthesis of a Tunnel Diode Amplifier With Distributed Parameters"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 4, Apr 72, pp 773-780

Abstract: The authors discuss computer synthesis of a wide-band tunnel diode amplifier with series stabilization utilizing elements with distributed parameters. The synthesis is done in the lower region of the X-band. The wave impedance and lengths of line sections are determined which give relative passbands of 16, 25 and 35% with the selected diode for an amplifier with a minimum gain of 12 dB and nonuniformity of 1 dB or less in the amplitude-frequency response. The stability of the amplifier is monitored during synthesis. Functions are calculated for the sensitivity of the amplification factor to a change in wave impedances and in the lengths of the line sections. An algorithm is given for solving the problem of synthesis. The proposed method of synthesis can also be used in the design of other wide-band devices for operation in the microwave band.

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USSR

UDC 621.375.4.001.5:621.382.23.011.222

MOGILEVSKAYA, L.YA., TAMARCHAK, D.YA., UVBARKH, V.I., KHOTUNTSEV, YU.I.

"Possibility Of Decreasing Stabilization Bands With Synthesis Of Tunnel Amplifiers"

Radiotekhnika i elektronika, Vol XVII, No 3, Mar 1972, pp 549-555

Abstract: The possibilities are considered of decreasing the stabilization frequencies of tunnel amplifiers of various types with parallel tuning in which a tunnel diode is presented in the form of the frequency-independent parallel-connected parameters R_{eq} , C_{eq} . The results obtained are valid for dual circuits with series tuning with presentation of a tunnel diode in the form of a series-connected R'_{eq} , C'_{eq} . 6 fig. 5 tab. 4 ref. Received by editors, 11 Jan 1971.

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USSR

UDC 621.375.4.001.5

TAMARCHAK, D. Ya., KHOTUNTSEV, Yu. L.

"On the Problem of Synthesizing a Tunnel-Diode Amplifier With a Real Circulator"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 10, Oct 71, pp 1822-1827

Abstract: The authors develop a tunnel diode amplifier with a series stabilization circuit of the first kind connected to a circulator whose equivalent circuit is given in the form of a parallel tank (the impedance transformer of the circulator is assumed to be a wide-band unit and is disregarded). The circuit is synthesized for several stabilization frequencies and for various values of the reactive component of the input impedance of the circulator in amplifier passbands comprising 50-70 percent of the passband of the circulator. The results are also applicable to a three-tank tunnel diode amplifier with a passband approximately 30 percent wider than that of the two-tank unit. Amplifier parameters are tabulated for various amplification factors. Three figures, three tables, bibliography of six titles.

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USSR

UDC 621.385.6

KHOTYAINTEV, S. N., DERENOVSKIY, M. V.

"Study of the Structure of an Electron Beam Shaped by a High-Perveance Triode Gun in the Current Regulation Mode"

Kiev, Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 1047-1050

Abstract: An experimental study was made of the structure of a beam shaped by a high-perveance triode gun in the current regulation mode. The schematic of the electron gun is also given. In this mode, along with variation of the perveance of the beam, the shape of the beam cross section, the current density distribution and the angle of emergence from the anode opening vary significantly. The results obtained provide a basis for the requirements on the focusing system and stability of the modulating voltage. In view of significant asymmetry of the beam in the current regulation mode when calculating a real EOS, analysis of a three-dimensional model is required.

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Vacuum Tubes

USSR

UDC 621.385.6

KHOTYAINITSEV, S. N., DERENOVSKIY, M. V., D'YACHENKO, S. M., TARARENKO, V. P.

"Powerful Electron Guns with Control Electrodes"

Kiev, Izvestiya vysshikh uchebnykh zavedeniy--Radioelektronika, Vol XIV, No 9, 1971, pp 997-1008

Abstract: A survey of foreign and Soviet papers on high-perveance electron guns with low voltage modulation is presented. The characteristic features of the structural elements, calculation techniques, control characteristics and operating characteristics of electron guns with grid control are investigated. The most prospective guns are guns with control grids located in front of the cathode. Guns with control posts appear effective for devices with high average power operating with a solenoid.

The study includes the characteristics of development of controlled guns, guns with control electrodes, a triode gun with the "natural" grid potential, the static amplification factor of the triode gun, operation of guns with grid potentials other than "natural," the lens effect of the grid, heating of the grid, grid emission, and designs of guns with control electrodes.

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USSR

KHOTYAINTEV, S. N., et al., Izvestiya vysshikh uchebnykh savedeniy--Radioelektronika, Vol XIV, No 9, 1971, pp 997-1008

The transverse components of the electron velocities in guns with control electrodes in front of the cathode and low voltage modulation are larger than in the analogous diode guns as a result of the lens effect of the grid cells. The magnitude of the transverse velocities is minimal for the "natural" grid potential. The average power of the gun is limited to the magnitude at which extraordinary grid heating takes place. Further improvements of the gun characteristics can be expected in guns with low temperature cathodes and in multiple beam systems. Application of a remote focusing electrode for modulation of the electron flux has low efficiency. Electron guns with control posts introduce significant distortions in the beam structure. They are most prospective for powerful devices in which focusing by a constant magnetic field is used.

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USSR

UDC: 51

DONIN, L. D., POPOVA, L. P., KHOTYAKOV, M. A.

"Development of an Algorithm for Solving one of the Problems of Compiling an Operational Schedule for Intraplant Deliveries of Material Resources"

Pribery i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Devices and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection), 1973, vyp. 27, pp 57-62 (from RZh-Matematika, No 9, Sep 73, abstract No 9V595 by the authors)

Translation: The paper points out the failures of the existing method of providing material resources to the subdivisions of an industrial enterprise. A method is suggested for compiling an operational schedule of cargo deliveries for the plan period. The stages of compilation of the schedule are described, and an algorithm is worked out for solving the problem of one of the stages.

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USSR

UDC 621.357.7:669.256(088.8)

MATULIS, YU. YU., RACHINSKAS, V. S., KHOTYANOVICH, S. I., RACHINSKENE, S. G.

"Method of Electrolytic Deposition of Cobalt Alloys"

USSR Author's Certificate No 316754, filed 18 May 70, published 22 Dec 71 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L333P)

Translation: A procedure has been patented for electrolytic deposition of Co alloys distinguished by the fact that in order to obtain a bright film of Co-Pt alloy, chloroplatinic acid is introduced into the electrolyte, and the process takes place at pH 2-5, D_c 0.2-2 a/dm², and a temperature of 18-40° with mixing of the electrolyte. The electrolyte contains (in g/liter): CoSO₄ 100-150, chloroplatinic acid 0.1-2.0, MgSO₄ 50-100, H₃BO₃ 25-35.

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USSR:

UDC 8.74

KRISEVICH, V. S., KHOTYASHOV, E. N., Editors

"Economic Information Processing Program System for the Minsk-32 Computer"

Sistema programm obrabotki ekonomicheskoy informatsii na EVM Minsk-32 (Economic Information Processing Program System for the Minsk-32 Computer), Mathematics Institute of the Belorussian SSR Academy of Sciences, Central Scientific Research and Technological Planning Institute of Organization and Techniques of Control, Minsk, 1972, 270 pp, ill., 60 k. (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V614K)

Translation: A library of programs is described for the Minsk-32 computer. This library is aimed at solving the economic information problems and it is designed for automation of standard information processing and automated control systems: data input, logical control and composition of the information from different carriers, sorting, correction of the information on magnetic tapes, printout of the data, editing, retrieval, duplication, logical processing of several data files, and so on. The library includes the economic information input programs from the punch tape and the punch cards, the economic information output program, the programs for sorting data on magnetic tapes and in the ready-access memory, the program for controlling the solution of the problems, the complex of programs for editing the input data, programs for processing write operations, printing out the data from magnetic tape, and so on. These programs use the software system of the Minsk-32 computer, but they

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USSR

KRISEVICH, V. S., et al., Sistema programm obrabotki ekonomicheskoy informatsii na EVM Minsk-32, Mathematics Institute of the Belorussian SSR Academy of Sciences, Central Scientific Research and Technological Planning Institute of Organization and Techniques of Control, Minsk, 1972, 270 pp, ill., 60 k.

have not been introduced into this system as a result of divergence in the description of the data elements (requisites).

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1/2 022 UNCLASSIFIED PROCESSING DATE—300GT70
TITLE—EXPERIMENTAL ACUTE HEPATIC INSUFFICIENCY IN DOGS —U—

AUTHOR—(05)—LOPUKHIN, YU.M., DUBROVSKIY, A.K., KUZNETSOV, V.N., KREMLI,
S.M., KHOVANSKAYA, M.G.
CCOUNTRY OF INFO—USSR

SOURCE—EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZOLOGIYA, 1970, NR 3, PP
25-29
DATE PUBLISHED—70

SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS—DOG, LIVER FUNCTION, CARBON TETRACHLORIDE, BLOOD CHEMISTRY

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAE—3002/1897

STEP NO—UR/0481/70/000/003/0025/0029

CIRC ACCESSION NO—AP0129249

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AP0129249

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN VIEW OF THE FACT THAT UP TO THE PRESENT TIME THERE EXISTS NO SATISFACTORY METHOD OF INDUCING HEPATIC COMA THE AUTHORS CARRIED OUT THREE PRINCIPAL SERIES OF EXPERIMENTS: 1. DEVASCULARIZATION OF THE LIVER WITH PRELIMINARY ESTABLISHMENT OF PORTOCAVAL ANASTOMOSIS. 2. INJECTION OF HEPATOTROPIC POISON (CARBON TETRACHLORIDE) INTO THE BLOOD CHANNEL. 3. LIGATION OF THE HEPATIC ARTERY, BILE DUCTS WITH INTRODUCTION INTO THEM OF CARBON TETRACHLORIDE. EXPERIMENTS WERE CONDUCTED 47 MONGREL DOGS UNDER MORPHINE HEXANAL ANESTHESIA. THE DEVELOPMENT OF HEPATIC INSUFFICIENCY WAS EVALUATED BY THE CLINICAL COURSE, BIOCHEMICAL INDICES OF THE BLOOD (AMMONIUM, UREA, SUGAR, BILIRUBIN, LACTIC ACID) AND MORPHOLOGICAL STUDY OF THE LIVER. THE AUTHORS ARRIVED AT THE CONCLUSION THAT THE MOST COMPLETE SYMPTOM COMPLEX OF ACUTE HEPATIC INSUFFICIENCY IN DOGS WAS OBTAINED ONLY IN THE THIRD SERIES. AMMONIUM TOWARDS THE 3RD-5TH DAY INCREASED UP TO 1.8 PLUS OR MINUS 0.13 MGPERCENT (P SMALLER THAN 0.02); UREA DECREASED DOWN TO 19.0 PLUS OR MINUS 0.73 (P SMALLER THAN 0.02); BILIRUBIN UP TO 2.4 PLUS OR MINUS 0.003 (P SMALLER THAN 0.001); LACTIC ACID INCREASED UP TO 57.0 PLUS OR MINUS 0.001; SUBSEQUENTLY THE BIOCHEMICAL INDICES STEADILY DETERIORATED. THE CLINICAL PICTURE AND SEVERE MORPHOLOGICAL AFFECTION OF THE LIVER SUPPLEMENTED THE BIOCHEMICAL INDICES OF THE BLOOD. THIS MODEL OF ACUTE HEPATIC INSUFFICIENCY ENABLES TO STUDY THE FUNCTIONAL ACTIVITY OF ISOLATED HOMO OR HETEROLIVER. FACILITY: LABORATORIYA PERESADKI ORGANOV TSENTRAL'NOY NAUCHNO-ISSLED. LABORATORII II MOSKOVSKOGO MEDITSINSKOGO INSTITUTA IM. N. I. PIROGOVA.

UNCLASSIFIED

USSR

UDC (621.317.77+621.317.619)(088.8)

AGROSKIN, V. I., BELOV, N. Ya., KHANDOGIN, B. N., KHOVANSKIY, Yu. P.

"A Device for Determining the Time Position of Radio Pulses and Measurement of the Phase of the Carrier Frequency"

USSR Author's Certificate No 265987, filed 10 Nov 67, Published 1 Jul 70 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7A234 P)

Translation: This Author's Certificate introduces a device for determining the time position of radio pulses and measuring the phase of the carrier frequency. The device contains a single-channel superhet receiver with a phase meter and phase detector at the output. Also incorporated in the device is a tracking system for measuring the time position. To ensure the possibility of operation under conditions of jitter, and to improve the reliability of the device, the heterodyne input of the radio receiver is connected to a source of antiphase heterodyne voltages through an operating mode selector and three electronic switches, the controlling inputs of two of the switches being connected to the outputs of the tracking system through a gating pulse commutator, while the controlling input of the third switch is connected to these outputs directly. The receiver output is connected to the phase meter and phase detector through an operating mode selector like that connected in the heterodyne circuit. Resumé.

1/1

USSR

UDC 621.396.69:621.319.4

LAVROVA, N. N., KHOVANTSEVA, D. A., CHERNYKH, M. A., SEATALOV, A. Ya.

"Anodizing Aluminum Foil in Citrate Electrolytes"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1 (18), pp 35-41 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V349)

Translation: The authors give the results of a study of the principles governing formation of pure aluminum foil in citrate electrolytes. The rate of aluminum oxidation in aqueous solutions of citric acid is independent of the concentration of acid (0.03-2%) and the pH of the solution (3.5-6.0). An increase in electrolyte temperature reduces the rate of oxidation. The current efficiency at 20°C is 95%, and decreases to 85% at 90°C as a consequence of chemical dissolution of the film during oxidation. Citric acid of 0.2% concentration with the addition of ammonia (25%) to a pH value in the range of 4-6 can be recommended for anodizing aluminum at average voltages of up to 300 V and current densities of 5-10 mA/cm² (for smooth foil) and 20 mA/cm² (for etched foil). Bibliography of 8 titles.
Ye. M.

1/1

USSR

UDC 615.28;632.957.015.4

ORLOVA, N. V., KHOVAYEVA, L. A., and AKINCHEVA, M. YA., Laboratory of
Pesticide Toxicology, Institute of Nutrition, Academy of Medical Sciences
USSR, Moscow

"Special Aspects of the Effect of Pesticides of Different Chemical Structure
on Warm-blooded Animals"

Moscow, Voprosy Pitaniya, No 6, Nov/Dec 71, pp 32-38

Abstract: Biochemical processes were investigated in the gonads, brain,
liver, and blood of male and female Wistar rats receiving small daily peroral
doses of ethylene-bis-dithiocarbamates (maneb and zineb, 30 mg/kg) for 5
months. Maneb and Zineb induced shifts (usually decrease in level) in the
activity of several enzymes, especially dehydrogenases and aminotransferases,
changes in SH-group concentrations in the various organs, and reduction in
the fructose concentration in male sex organs. Keltan exerted selective
effects on the enzymatic systems of the liver.

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USSR

UDC 621.311.21(282.247.32):624.146.2.004.28

KHOVKO, V. N., engineer

"Winter Operation Problem at the GES of Dnieper Cascade"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 1, January 1971, pp 26-28

Abstract: The following two conditions causing difficulties in winter operation of the GES are described.

1. The condition when ice slush forms in the water below the surface. This occurs when low air temperatures and strong wind and current cause the water to supercool below freezing temperature but solid ice not being able to form on the surface because of the turbulence. The presence of slush in the water caused icing of the inlet racks. The resulting obstruction interfered with the operation of the turbines. It became necessary to stop the turbines one at a time and raise the racks for removing the ice. In order to prevent icing of the inlet racks it is recommended to equip them with electric heaters. Ice slush in the water disappears if solid ice forms on the surface.

2. The other condition occurs when it is snowing and snow floats on the

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USSR

KHOVKO, V. N., Gidrotekhnicheskoye Stroitel'stvo, No 1, January 1971, pp 26-28

surface of the water. This snow clogged up the inlet racks without adhering to them. The difficulty was overcome by raising the top sections of the inlet racks. A better solution would be a floating fence to stop the surface snow from reaching the inlet racks.

In both cases it is recommended to provide devices for remote indication of pressure drop across the inlet racks.

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USSR

UDC: 621.317

SOROKIN, Yu. K., KHOVRATOVICH, V. S.

"Measuring the Basic Parameters of SHF Lines of Arbitrary Cross Section"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Re-
ports of the All-Union Scientific and Technical Conference on Radio Engineer-
ing Measurements. Vol. 2), Novosibirsk, 1970, pp 58-61 (from RZh-Radiotekhnika,
No 12, Dec 70, Abstract No 12A366)

Translation: The authors discuss problems of modeling SHF lines in an electrolytic bath. Specially designed electrodes are used to eliminate the effect of the meniscus. A calculated example is given to verify the proposed method. The results of control measurements show that this procedure gives an appreciable improvement in modeling precision, and can be used to determine the basic parameters of transmission lines with TEM waves within 1-2 percent. Bibliography of six titles. E. L.

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USSR

UDC 547.559+668.819

AL'YANOV, M. I., BORODKIN, V. F., BENDERSKIY, V. A., and KHOYNOV, YU. I.,
Ivanovo Chemical-Technological Institute, Branch of the Institute of Chemical
Physics, Academy of Sciences USSR, Chair of Chemical Technology of Organic
Dyes and Intermediate Products

"Metalphtalocyanine Purification Method by Means of Vacuum Distillation "

Ivanovo, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Khimiya i Khimicheskaya
Tekhnologiya, Vol 14, No 10, 1971, pp 1606-1608

Abstract: A method was developed for the sublimation of large amounts of
metalphtalocyanines. The novelty of the process is in the introduction of a
heat conducting filler into the metalphtalocyanine mass. The apparatus
used in this process is described. It consists of a housing with a constricted
"tail" portion, a flange, a setup for performing condensation and crystal
collection, a condenser, thermal insulator and a heating unit. The material
to be purified, including the heat conducting filler is loaded in a tray
and inserted into the apparatus. It is followed by the removable receiver.
The unit is hermetically sealed, evacuated, and heated slowly to 450°. The
receiver then is pulled into the cold portion of the apparatus and the
heating continued up to 525°C. Then the apparatus is cooled, the crystals
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USSR

AL'YANOV, M. I., et al., Izvestiya Vysshykh Uchebnykh Zavedeniy -- Khimiya
i Khimicheskaya Tekhnologiya, Vol 14, No 10, 1971, pp 1606-1608

obtained are ground up and the impurities formed due to some decomposition
are extracted with acetone until colorless crystalline material is obtained.

2/2

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USSR

FADIN, V. S. and KHOZE, V. A., Leningrad Institute of Nuclear Physics, Academy of Sciences USSR

"The Angular Distribution of Photon Brehmsstrahlung During the Collision of Ultra-relativistic Electrons"

Moscow, Yadernaya Fizika, Vol 18, No 3, Sep 73, pp 560-570

Abstract: The authors study brehmsstrahlung during the collision of ultrarelativistic electrons and positrons. Expressions are obtained, with logarithmic accuracy, for the angular distribution of photons which are valid for all angles θ_k and frequencies ω (except for the hard end of the spectrum). Incident particles with transverse polarization are also considered. An applicability analysis is made of the following methods: the Weizsacker-Williams method, the classical current method, and the pole approximation method for obtaining the angular distributions and spectra in c.m.s. and l.s. according to the electron propagator designator.

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USSR

UDC 538.4:669-154

KYABININ, A. G., and KHOZHATNOV, A. I.

"Unsteady Flows of Liquid Metals in MHD Devices"

Leningrad, Nestatsionarnyye Tekheniye Zhidkikh Metallov v MGD-Ustroystvakh
(cf. English above), "Mashinostroyeniye" Publishing House, 1970, 144 pp

Abstract: This book presents studies of unstationary flows of liquid metals in channels of conduction MHD devices with a constant magnetic field. The preferentially laminar flow modes of liquid metal are discussed. A portion of the monograph is devoted to a study of the integral characteristics of unsteady turbulent magnetohydrodynamic flows. All solutions of the problems are illustrated with extensive computational material. Studies of the authors published in recent years in the periodical literature is the basis of the monograph. The book is intended for scientific workers and research engineers concerned with the development of MHD devices and their introduction into industry. The monograph has 2 tables, 46 illustrations, 101 references. The Table of Contents follows:

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of Unsteady Magnetohydrodynamic Flows in Channels: 10

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USSR

RYABININ, A. G., and KHOZHAINOV, A. I., Nestatsionarnyye Tècheniya Zhidkikh Metallov v MGD-Ustroystvakh, "Mashinostroyeniye" Publishing House, 1970, 144 pp

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| 2. Exact and Approximate Formulation of Problems for Nonstationary Flows of Liquid Metals in Magnetohydrodynamic Channels | 14 |
| 3. Classes of Problems and Methods of Their Solution | 21 |
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| 1. Laminar Flow of a Liquid Metal in the Channel of an MHD Device with Constant Flow | 23 |
| 2. Laminar Flow of a Liquid Metal in the Channel of an MHD Device with a Constant Pressure Gradient | 31 |
| 3. Laminar Flow of a Liquid Metal in the Channel of an MHD Device with an Additional Relationship Between the Pressure Gradient and the Flow | 41 |
| 4. Laminar Flow of a Liquid Metal in the Channel of an MHD Device During an Arbitrary Change with Time of the Pressure Gradient | 44 |

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USSR

RYABININ, A. G., and KHOZHAINOV, A. I., Nestatsionarnyye Tsecheniya Zhidkikh Metallov v MGD-Ustroystvakh, "Mashinostroyeniye" Publishing House, 1970, 144 pp

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USSR

RYABININ, A. G., and KHOZHAINOV, A. I., Nestatsionarnyye Tekheniye Zhidkikh Metallov v MGD-Ustroystvakh, "Mashinostroyeniye" Publishing House, 1970, 144 pp

3. Laminar Flow of a Liquid Metal in the Channel of an MHD Device in the Presence of an Active Resistance and Constant Inductance in the External Loop 92
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6. Turbulent Flow of a Liquid Metal in the Channel of an MHD Device in the Presence of an Active Resistance and Constant Inductance in the External Loop 106
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USSR

RYABININ, A. G., and KHOZHAINOV, A. I., Nestatsionarnyye Tekheniye Zhidkikh Metallov v MGD-Ustroystvakh, "Mashinostroyeniye" Publishing House, 1970, 144 pp

1. Transient Operating Modes of an MHD Regulator for the Flow of a Liquid Metal 109
 2. Transient Processes With Pumping of Liquid Metal From One Vessel to Another by a Magnetohydrodynamic Method 117
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1/2 050

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--NONSTATIONARY MAGNETOHYDRODYNAMIC COUETTE FLOW PRODUCED BY CHANGING
THE MAGNITUDE OF THE APPLIED MAGNETIC FIELD -U-

AUTHOR--KHODZHAYNOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKhanika ZHIKOSTI I GAZ,
MAR.-APR. 1970, P. 30-34

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MAGNETOHYDRODYNAMIC FLOW, UNSTEADY FLOW, INCOMPRESSIBLE FLUID,
PLANAR FLOW, TRANSVERSE MAGNETIC FIELD, TRANSIENT ELECTROMAGNETIC FIELD,
APPROXIMATE SOLUTION, COUETTE FLOW

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAme--2000/1189

STEP NO--UR/0421/70/000/000/0030/0034

CIRC ACCESSION NO--AP0124843

UNCLASSIFIED

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050

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124843

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE UNSTEADY FLOW OF A VISCOUS INCOMPRESSIBLE FLUID BETWEEN TWO PARALLEL WALLS, ONE OF WHICH IS IDEALLY CONDUCTING AND MOVES IN ITS OWN PLANE AT A CONSTANT VELOCITY WHILE THE OTHER IS NONCONDUCTING AND IS AT REST. THE UNSTEADINESS OF THE FLOW IS CAUSED BY INSTANTANEOUS FLUCTUATIONS OF AN APPLIED UNIFORM TRANSVERSE MAGNETIC FIELD (THE ELECTROMAGNETIC TRANSIENTS ARE OF SHORT DURATION COMPARED TO THE MHD TRANSIENTS). AN APPROXIMATE SOLUTION TO THE PROBLEM IS OBTAINED BY DETERMINING THE TRANSIENT PROCESS FOR A CONSTANT AND VARIABLE VELOCITY OF MOTION OF THE CONDUCTING PLATE. THE RESULTS ARE APPLIED TO A PRACTICAL EXAMPLE.

UNCLASSIFIED

USSR

UDC 629.841.621.543.2/3

RASHIDOV, T., KHOZHMETOV, G., and KHAZRATKULOV, M., Institute of Mechanics and of Earthquake Resistance of Buildings imeni M. T. Urazbayeva, Academy of Sciences UzSSR

"Earthquake Resistance of Complex Systems of Underground Buildings for an Elastic-Viscous Model of the Interaction of Buildings With the Ground"

Tashkent, Izvestiya Akademii Nauk UzSSR, Seriya Tekhnicheskikh Nauk, No 3, 1973, pp 56-60

Abstract: A theoretical investigation was made of the vibrations of a complex node of an underground pipe-line laid in an elastic-viscous (relaxing) ground, with accounting for the rotation inertia of the node. As a result of studying the vibrations of pipe-lines with a complex node and consisting of independent pipe sections on both sides of the complex node, at I_x and $I_y \neq 0$, for rigid butt-joining and the case of an elastic-viscous model of pipe-ground interaction, a system of differential equations was derived with constant coefficients. The system describes the motions of complex systems of underground buildings under the action of seismic forces. A program was developed for solving this system with the help of an electronic digital computer. Sixteen formulas, five bibliographic references.

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USSR

UDC: 621.317.77

KHOZYAINOV, S. A., ZHUKOVSKIY, V. T., GOYZHEVSKIY, V. A.

"Analysis and Experimental Determination of Amplitude Errors in an SHF Phase Meter"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 118-121 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A329)

Translation: The authors analyze errors in a two-channel phase meter with transfer of phase displacements in the input SHF signal to an intermediate frequency, where amplifiers with AGC which do not introduce phase distortions are used to obtain high precision in the low-frequency indicator of the phase meter. The amplitude-phase error of the phase meter, i. e. the change in its readings when the phases of the input signals are constant while the amplitudes are variable is due to a number of causes in the general case: input signal spectrum, heterodyne voltage, etc. The amplitude-phase distortions in SHF mixers and amplifiers with AGC are analyzed. It is shown that in order to reduce the error of the mixer, the intermediate frequency should be taken at about 1-100 kHz, and the input impedance should be matched to the frequency band maximum. A specific analysis is given for 1/2

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USSR

KHOZYAINOV, S. A. et al., Dokl. Vses. nauchno-tekhn. konferentsii po radio-
tekhn. izmereniyam. T. 2, Novosibirsk, 1970, pp 118-121

errors of an amplifier with AGC. In amplifiers with AGC having a gain of
60-70 DB, the amplitude-phase error was no greater than 0.05° in a frequency
band of 1-100 kHz. Bibliography of one title. E. L.

2/2

USSR

UDC: 621.317.77

KHOZYAINOV, S. A., TRILIS, V. G., GOYZHEVSKIY, V. A.

"An Automatic Trigger Phase Meter"

Dokl. Vses. Nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 116-117 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A326)

Translation: It is noted that a common disadvantage of modern trigger phase meters is the instability of readings in the case of small trigger intervals for the measurement flip-flop, i. e. usually in the vicinity of 0° , 180° or 360° . The zone of instability covers several degrees, and expands in the case of noises. In the proposed phase meter, this disadvantage is eliminated by adding a special logic circuit; the action of this circuit is briefly described. The use of automatic readout (without the services of an operator) over the entire range of angles from 0 to 360° made it possible to use phase multiplication by a factor of 36. The use of class 1.0 dial meters ensures a resolution of at least 0.05° . E. L.

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1/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CHANGES OF RHEOLOGICAL PROPERTIES OF THE BLOOD IN TRAUMATIC SHOCK
AND THEIR SIGNIFICANCE IN GENESIS OF CIRCULATORY DISTURBANCES -U-
AUTHOR--(02)-SELEZNEV, S.A., KHRABROVA, O.P.

COUNTRY OF INFO--USSR

SOURCE--PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL/NAYA TERAPIYA, 1970,
VOL 14, NR 2, PP 65-70
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--WHOLE BLOOD, FLUID VISCOSITY, RHEOLOGIC PROPERTY, TRAUMATIC
SHOCK, BLOOD CIRCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0025

STEP NO--UR/0396/70/014/002/0065/0070

CIRC ACCESSION NO--AP0105124

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105124

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. RHEOLOGICAL PROPERTIES OF THE BLOOD OBTAINED AT VARIOUS PERIODS OF TRAUMATIC SHOCK FROM CATS WERE STUDIED. THE FOLLOWING DETERMINATIONS WERE MADE: BLOOD VISCOSITY WITH THE AID OF HESS' VISCOSIMETER; BLOOD VISCOSITY AT VARIOUS EXTENT OF THE SHOCK IN A UNIT WITH CAPILLARIES WITH A RADIUS OF 0.45 AND 0.60 MM; SEDIMENTATION OF FORMED ELEMENTS UNDER CONDITIONS OF CONTINUOUS FLOW. CAPILLARIES INCLUDED INTO THE UNIT WERE GRADUATED BY WATER, 40 AND 60 PERCENT SACCHAROSE SOLUTIONS. BESIDES, THE VALUE OF HEMATOCRITE READING AND OF THE PLASMA PROTEIN COMPOSITION WERE ALSO TAKEN INTO CONSIDERATION. THE RELATIVE AND ASYMPTOTIC VISCOSITY PROVED TO BE DIMINISHED DURING SHOCK. ALTERATIONS OF VISCOSITY WERE MORE PRONOUNCED THAN THE CHANGES OF HEMATOCRITE INDEX. VISCOSITY OF ERYTHROCYTE SUSPENSION WAS REDUCED IN THE PLASMA OF ANIMALS IN CONDITION OF SHOCK. IN SHOCK SEDIMENTATION OF FORMED ELEMENTS CHARACTERIZING THEIR ADHESIVE PROPERTIES EXCEEDED THE NORMAL ONE. FACILITY: LABORATORIYA PATOLOGICHESKOY FIZIOLOGII INSTITUTA SKOROY POMOSHCHI IM. L. I. DZHANELIZDE, LENINGRAD.

UNCLASSIFIED

USSR

UDC 613.644-07:612.824

ALEKSEYEV, S. V., MAZURKEVICH, G. S., and KHRABROVA, O. P., Medical Institute of Sanitation and Hygiene, and Institute of First Aid imeni I. I. Dzhanelidze, Leningrad

"Changes in the Reactivity of Terminal Brain Vessels in Rats in Response to Stable Noise"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1973, pp 18-21

Abstract: Epinephrine and acetylcholine were applied directly onto the pia mater of rats subjected 100 db stable white noise to determine the reactivity of pial vessels to noise. While epinephrine alone did not cause changes in vessel diameter and blood flow rate, acetylcholine alone caused considerable, rapid dilation of arterioles and a weaker response in venules, but blood flow did not change significantly. Epinephrine plus noise produced sharp spasms of small arteries and arterioles. Vessel constriction continued to occur with epinephrine application after the noise was turned off. In the presence of noise, arterioles expanded less than in controls in response to acetylcholine in the first 2 min but began to dilate rapidly 15-20 min after noise was turned on. This effect persists with subsequent acetylcholine applications for 25-30 min after noise is turned off. Thus in the presence of noise

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USSR

ALEKSEYEV, S. V., et al., Gigiyena Truda i Professional'nyye Zabolevaniya,
No 7, 1973, pp 18-21

acetylcholine reduces and epinephrine increases the reactivity of pail vessel
muscles. Changes in vessel reactivity to the vaso-active substances probably
stem from production of catecholamines in response to noise stress.

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- 60 -

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UR 0396

Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, 1969,
Nr 2, pp 20-23

REACTIVITY OF TERMINAL VESSELS IN TRAUMATIC SHOCK

O. P. Khrabrova

Vital microscopy was used in the study of the reactivity of the vessels of the mesoappendix and of the pia mater in traumatic shock in rats. With the aggravation of shock the sensitivity of the mesenteric vessels to sympathicotrophic agents (adrenalin) proved to rise; the sensitivity to vasodilating agents (barium chloride) — fell. With the aggravation of shock the reaction of pial vessels in response to the action of vasoconstrictor and vasodilator agents also considerably decreased.

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1946

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USSR

UDC: 536.46:533.6

KHRAKOVSKAYA, E.M.

"Spectrum Investigation of Combustion of Magnesium Particles in Rarefied Air"

Odessa, 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem, 1972 (11-th All-Union Conference on Problems of Evaporation, Combustion and Gas Dynamics of Dispersion Systems, 1972), 1972, p 27 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2B960)

Translation: Spectrum investigation was conducted of combustion in rarefied air of cubic shape magnesium particles, weighing 40 mg. The optical density of magnesium spectrum obtained under pressures of 22, 70, 106, 132 and 760 mm of mercury was measured by MF-2 microphotometer in the range of 3600-3900A. It was noted that the magnesium spectrums obtained under 22 and 70 mm of mercury differ markedly from the others, under these pressures the Mg 0 band exceeds in intensity the magnesium lines. The reverse was observed under the rest of the listed pressures. The magnesium lines exceeded in intensity the Mg 0 band. The data obtained show the special character of combustion of magnesium in rarefied air and indicate the basic source of radiation.

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- 35 -

USSR

UDC 577.391.612.119:599.32

CHERTKOV, K. S., and KHRANCHENKOVA, S. P., Institute of Biophysics, Ministry of Health USSR, Moscow

"Comparison of the Effects of Short-Term and Prolonged Irradiation in Equal Sublethal Doses on Hemopoiesis in Mice"

Moscow, Radiobiologiya, Vol 12, No 1, Jan/Feb 72, pp 77-84

Abstract: A comparative study was made of the pathogenic and recovery processes in cell composition in the bone marrow, spleen, thymus, and blood of mice following gamma-irradiation in short-term (27-39 sec) and prolonged (23.5 hrs) 400 r doses. The results showed that neither form of irradiation is lethal; however, substantial changes in cell composition were observed in the blood, and the number of nucleated cells decreased in lymphoid and hemopoietic organs. Cell number was affected in three phases: disruption (3 days at most); relative stability, achieved at different times and to varying degrees in different organs; and complete recovery within 3 weeks. Only 2.3% of nucleated cells in the femur retained their colony-forming capacity $\frac{1}{2}$ hour after prolonged irradiation, then noticeably increased. Following short-term irradiation, the number of cells continued to decrease for 48 hours. The relation of number of cells to length of exposure can be $\frac{1}{2}$

USSR

CHERTKOV, K. S., and KHRANCHENKOVA, S. P., Radiobiologiya, Vol 12, No 1, Jan/Feb 72, pp 77-84

expressed as exponential or power functions: $1G Y = 2.1292 + 0.8681 \lg t$ for prolonged irradiation, and $\lg Y = 1.7328 + 1.6418 \lg t$ for short-term irradiation, where Y is the number of colony-forming cells in femoral bone marrow, determined t days following irradiation.

2/2

- 27 -

USSR .

UDO 621.391.3

MIZIN, IGR' ALEKSANDROVICH; URINSON, LEONID SAVEL'YEVICH; KHRAMESHIN,
GENNADIY KUZ'NICH

"Information Transmission In Networks With Switching Of Traffic"

Peredacha informatsii v setyakh s kommutatsiyey soobshcheniy (cf. English above),
Moscow, Izd. "Svyaz", 1972. 320 pp. ill. 141 ref. 1 r 51 k.

Abstract In the book problems are considered on the construction and operation of information networks (IN) with switching of traffic. Initial data are determined for the planning and for the totality of the indices of the effectiveness of functioning of an IN. A description of a model of an IN is given as well as the principles of construction of the primary elements of the network--channels of data transmission and units for switching traffic.

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5

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- 1.1 Information network as a subsystem of a large system
- 1.2 Principal elements of information network

9
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1/8

USSR

MIZIN, IGOR' ALEKSANDROVICH, et al., Peredacha informatsii v setyakh s kommutatsiyey soobshcheniy, Moscow, Izd. "Svyaz", 1972. 320 pp. ill. 141 ref. 1 r 51 k.

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MIZIN, IGOR' ALEKSANDROVICH, et al., Peredacha informatsii v setyakh s kommutatsiyey soobshcheniy, Moscow, Izd. "Svyaz", 1972. 320 pp. ill. 141 ref. 1 r 51 k.

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MIZIN, IGOR' ALEKSANDROVICH, et al., Peredacha informatsii v setyakh s kommutatsiyey soobshcheniy, Moscow, Izd. "Svyaz", 1972. 320 pp. ill. 141 ref. 1 r 51 k.

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MIZIN, IGOR' ALEKSANDROVICH, et al., Peredacha informatsii v setyakh s kommutatsiyey soobshcheniy, Moscow, Izd. "Svyaz", 1972. 320 pp. ill. 141 ref. 1 r 51 k.

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1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--COATING FOR MOLDS -U-
AUTHOR--(02)-KHRAMKOV, V.P., KUZNETSOVA, L.I.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 261,235
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--06JAN70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CHEMICAL PATENT, PIGMENT, MOLD LUBRICANT, GLASS
INDUSTRY/(U)BF2 MOLD LUBRICANT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/1973 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0115772
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0115772

ABSTRACT/EXTRACT--(U) GP-G- ABSTRACT. COATING FOR MOLDS USED INT HE
GLASS INDUSTRY CONSISTED OF A SYNTHETIC BINDER, SUCH AS BF-2, 90-9 AND A
FILLER WHITE PIGMENT 1-10 WT. PERCENT TO INCREASE THE LIFE OF THE
COATING AND IMPROVE THE SURFACE OF THE GLASS PRODUCTS. FACILITY:
GUSEV STATE SCIENTIFIC RESEARCH INSTITUTE OF GLASS.

UNCLASSIFIED

USSR

UDC 621.372.832.8

KOZYREV, N. D., KHRAMOV, A. V.

"Filter-Circulator for a Radio Relay Communications Line"

Moscow, Radiotekhnika, Vol 26, No 10, 1971, pp 94-95

Abstract: The results of an experimental investigation of the parameters of a filter-circulator executed from rectangular wave guides $25 \times 58 \text{ mm}^2$ in cross section are presented. The basic element of the investigated device is a 5-leg circulator. Its basic electric characteristics and the frequency-amplitude characteristics of the filter-circulator are presented. The results obtained show the theoretical possibility of creating band separation filters on the basis of multilegged circulators. They can be used in radio relay communications systems with some improvement of the basic electrical parameters.

1/1

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USSR

UDC: 8.74

2

KIRILYUK, N. I., KVASOV, V. M., ZAYTSEV, N. G., SIRCHENKO, A. G., SOKOLOV, V. K., KHRAMOV, G. V.

"Structure and Composition of the Set of Technical Facilities of a Typical Automated Control System"

Kibernet. i vychisl. tekhn. Resp. mezhved. sb. (Cybernetics and Computer Technology. Republic Interdepartmental Collection), 1971, vyp. 12, pp 41-54 (from RZh-Kibernetika, No 5, May 73, abstract No 5V772 by the authors)

Translation: The paper deals with problems of selecting the technical complex of a typical automated enterprise management system which are of interest in the development and introduction of control systems.

1/1

- 100 -

USSR

UDC 621.762.01(088.8)

POGODIN-ALEKSEYEV, G. I., GAVRILOV, V. M., KHRAMOV, S. P., KHAVROSHKIN, O. B.,
SYRKIN, V. G., and UEL'SKIY, A. A.

"Method of Producing Dispersed Materials"

USSR Authors' Certificate No 301379, Cl. C 23c 11/02, B 22 f 1/00, filed
7 Apr 66, published 2 Jun 71 (from RZh-Metallurgiya, No 1, Jan 72, Abstract
No 1G263P)

Translation of Abstract: A method is suggested for producing dispersed materials by the application of refractory metal compounds to powders through thermal decomposition of vapor of the metal-containing component, with the powder with enhanced mechanical properties, delivery of a layer of powder of the refractory compound is alternated with vapor of the metal-containing component in amounts sufficient to grow a layer of metal, with the metallic component that forms during thermal decomposition undergoing treatment by ultrasonic vibrations through a gaseous medium.

1/1

USSR

UDC 621.357:621.79.027

KHRAMOV, V. N.

"Electrochemical Finishing and Polishing of Flat and Curvilinear Surfaces"

Elektron. tekhnika. Nauch.-tekhn. sb. Tekhnol., organiz. proiz-va i oborud.
(Electronic Technology. Collection of Scientific and Technical Papers.
Technology and Organization of Industrial Production and Equipment), Vyp 2(50)
1972, pp 26-29 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, No 23(II),
1972, Abstract No 23L231)

Translation: A new treatment of metal surfaces is described which includes a simultaneous electrochemical and mechanical treatment of metal parts. The electrolytic reaction products are removed continuously and fresh electrolyte is supplied at the same time. This method makes it possible to increase the work output 4-8 fold.

1/1

USSR

UDC: 621.372.061

BOVA, N. T. and KHRAMOV, V. A.

"Automating the Computations of Microwave Devices"

Kiev, Izvestiya VUZ--Radioelektronika, Vol 13, No 12, 1970, pp 1488-1490

Abstract: The microwave devices referred to in this brief communication are semiconductors -- p-i-n diodes, varactors, and the like -- as well as ferrites, used for controlling the amplitude or phase of the microwave oscillations. The methods of automating their computations can be based on the methods for solving the problem of linear programming since electrical control devices for microwaves are linear systems with variable parameters. An example of the linear equations connecting incident and reflected waves for a four-terminal network equivalent to a series of cascaded individual elements is given. For their analysis of the computations such elements involve, the authors use the example of a phase-shifting device with four reactances. They also mention that the results they obtained in the automatic computation of a phase-shifting network with nine varactors, using the "Mir" electronic computer, agreed satisfactorily with the theoretical calculations.

1/1

- 57 -

1/2 028 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--ELECTROPHORETIC INVESTIGATION OF LIVER PROTEINS IN ACUTE
CHOLECYSTITIS -U-
AUTHOR--(02)-ZHIDOVINOV, G.I., KHRAMOV, V.A.
COUNTRY OF INFO--USSR
SOURCE--KHIRURGIYA, 1970, NR 2, PP 37-40
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LIVER, PROTEIN, ELECTROPHORESIS, INTERNAL ORGAN DISEASE, BLOOD
CHEMISTRY, GAMMA GLOBULIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1986/1722 STEP NO--UR/0531/70/000/002/0037/0040
CIRC ACCESSION NO--AP0103488
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0103488

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ELECTROPHORETIC INVESTIGATION OF LIVER PROTEINS WAS EFFECTED IN 54 PATIENTS SUFFERING FROM ACUTE CHOLECYSTITIS BY THE TECHNIQUE OF AGAR ELECTROPHORESIS. LIVER PROTEINS WERE DIVIDED INTO 5-10 FRACTIONS. THEIR QUANTITATIVE EVALUATION DEMONSTRATED THAT IN COMPLICATED CHOLECYSTITIS THERE IS SEEN A STATISTICALLY SIGNIFICANT REDUCTION OF THE FIFTH AND FOURTH LIVER PROTEIN FRACTIONS, CORRESPONDING TO BLOOD SERUM GAMMA GLOBULINS AND THE APPEARANCE IN SOME CASES OF ADDITIONAL FOUR A AND FOUR Y FRACTIONS, CORRESPONDING TO BLOOD SERUM PARAPROTEIN. THE AUTHORS NOTED NO CORRELATION BETWEEN CHANGES IN SERUM AND TISSULAR LIVER PROTEINS.

UNCLASSIFIED

AAC052643

KHRAMOV

V. D.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

240918 KNEE JOINT HOMOPLASTY uses arcs, spokes
and distractors, wherein the distractors
are beaker-shaped 8 and hold hinged spring-loaded
rods 9. This makes secure ostosynthesis of a
transplanted joint and allows mechano-therapy.
23.4.68. as 1235028/31-16. M.V.VOLKOV et alia.
Central Orthopedic Inst. (14.8.69.) Bul.13/1.4.69.
Class 30a. Int.Cl. A61b.

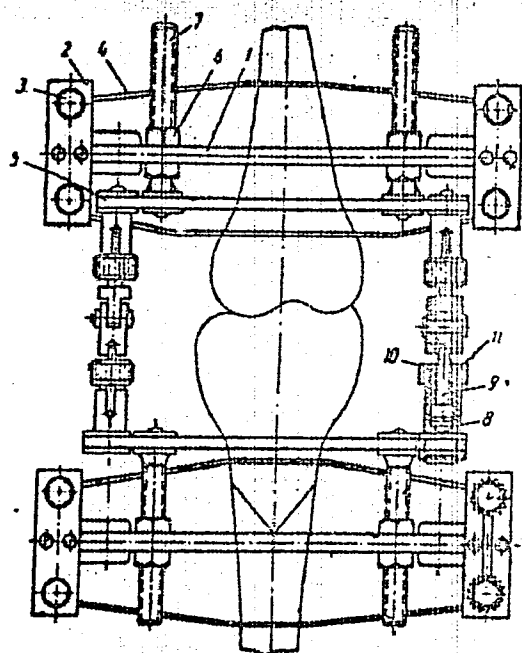
Volkov, M. V.; Tatishvili, G. G.; Sivash, K. M.; Borodkin, V. S.;
Khramov, V. D.

Tsentrall'nyy Institut Travmatologii i Ortopedii

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USSR

UDC 546.651+541.49

KHRAMOV, V. P., IVANOV, A. B., and SEVGST'YANOV, V. P., Saratov Institute for the Mechanization of Rural Farming imeni M. I. Kalinina

"Physical Chemical Studies of Some Rare Earth Ethylenediaminediisopropylphosphonates Having the Formula $KLnR \cdot nH_2O$ "

Ivanov, Khimiya i Khimicheskaya Tekhnologiya, Vol 16, No 1, 1973, pp 18-21

Abstract: A study was made of salts having the general formula $KLnR \cdot nH_2O$ -- where $R = C_8H_{18}O_6N_2P_2$, $n = 6$ for Ce and Pr, 7 for Nd, and 8 for La and Sm -- using thermogravimetric, IR, and x-ray analyses. Diagrams are given for the former and the spectra for the latter two techniques. Partial dehydration reduced n to 3 for all 5 rare earth elements (REE). The thermolysis of the REE complexes occurred in two steps: the first from 55 - 180°C, the second from 270 - 310°C. The x-rays indicate that the obtained salts are rather more amorphous than H_4R . Analysis of vibrations in the infrared region shows that the metal coordinates with five atoms of oxygen from the phosphoryl group and three molecules of water. The potassium ion is bonded to six atoms of oxygen; also H_4R has a higher coordination number (in this case, 6) than has been reported in the literature.

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USSR

UDC 681.3:31.519.2

KHRAMOV, YU. N.

"Statistical Analy er"

USSR Author's Certificate No 258739, filed 8 Jul 68, Moscow, Otkrytiya Izboreneniya Promyshlennyye Obratzsy i Tovarnyye Znaki, No 1, Jan 70, p 130

Translation: A statistical analyzer which consists of a two-way switch; reversible selection counter; reversible counters; and storing devices on linear decatrons, the first subcathodes of which are connected through collector circuits to sources of the analyzed pulsed processes, is presented. Its special feature is the fact that in order to determine the median of a statistical distribution, the input of the reversible selection counter is connected to the output of the pulse generator, which, in turn, is connected with the first and second subcathodes of decatrons through the reversible two-way switch. The first indicator outputs of the decatrons are connected through the two-way switch with the blocking input of the selection counter, which, in turn, is connected through the zero input to the control outputs of 1/2

USSR

KHRAMOV, YU. N., USSR Author's Certificate No 258739, filed 8 Jul 68, Moscow, Otkrytiya Izobreteniya Promyshlennyye Obraztsy i Tovarnyye Znaki, No 1, Jan 70, p 130

the pulse generator. Second inputs of every subsequent collector circuit are connected with the zero indicator electrode of the preceding deatron, and the second input of the first collector circuit is connected through the master two-way switch with the source of dc voltage.

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Acc. Nr.

AP0048840

Abstracting Service:
CHEMICAL ABST.

5-70

Ref. Code

UR 0459

91078g Polyester plasticizers studied by nuclear magnetic resonance. Identification of structure and determination of molecular weight. Urman, Ya. G.; Khramova, T. S.; Gorbunova, V. G.; Barshtein, R. S.; Slonim, I. Ya. (Nauch.-Issled. Inst. Plast. Mass. Moscow, USSR). *Vysokomol. Soedin., Ser. A* 1970, 12(1), 160-4 (Russ). NMR spectra of $\text{BuO}[\text{CO}(\text{CH}_2)_n\text{CO}_2\text{RO}]_m\text{Bu}$ (I) [R is $(\text{CH}_2)_2$, $(\text{CH}_2)_4$, $(\text{CH}_2)_6$, $(\text{CH}_2)_8$, CH_2CHMe , $(\text{CH}_2)_2\text{CHMe}$, $(\text{CH}_2\text{CH}_2)_2\text{O}$, $(\text{CH}_2\text{CH}_2\text{O})_2\text{CH}_2\text{CH}_2$, $(\text{CH}_2\text{CH}_2\text{O})_3\text{CH}_2\text{CH}_2$, or $(\text{CH}_2\text{CH}_2\text{O})_m\text{CH}_2\text{CH}_2$] prepd. by transesterification of $\text{BuO}_2\text{C}(\text{CH}_2)_n\text{CO}_2\text{Bu}$ with HOROH confirm their linear polyester structure. All I contain BuO end groups which give a signal at 0.95 δ . The signal intensity was used to det. the no. av. mol. wt. of I to ~5000 with 10-15% accuracy. CPJR

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USSR

KHRAMTSOV, A., non-staff correspondent of "Pravda"

"Lovdarite -- a New Mineral, Discovered"

Moscow, Pravda, 20 Jan 73, p 3

Translation: The Commission for New Minerals of the All-Union Mineralogical Society, Academy of Sciences USSR, has confirmed the discovery of a new mineral -- lovdarite -- by a Kola Peninsula geologist, Yu. P. Men'shikov.

"While investigating the 'Yubileynaya' deposit," stated Senior Scientist of the Institute of Geology of the Kola Affiliate of the Academy of Sciences USSR, I. V. Bussen, "the attention of Yu. Men'shikov was attracted by a white and yellowish rim on coarse grains of chkalovite, having the outward appearance of a porcelain. A complex investigation has shown that the discovery of the scientist represents a mineral that was hitherto unknown to world's geological science."

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Acc. Nr:

AP0050762

Abstracting Service:

CHEMICAL ABST: 5-70

Ref. Code:

UR 0333

K

— 99301v Improvement of the centrifugal separation of a lactose crystallizate. ~~Khrantsov, A. G. (Vses. Nauch.-Issled. Inst. Masloel. Syrodel. Prom., USSR): Moloch. Prom. 1970, 31(1), 28-31 (Russ).~~ The use of a centrifuge with a productivity of 200 kg/hr and cycle time of 18-25 min is recommended. The moisture of the ppt. obtained is 5-7%. When using a metal filter no. 70 made of stainless steel, the filtrate contains the min. amt. of lactose.

Lola Brodfeld

REEL/FRA
19810762

di 2

BIOLOGY
Agriculture

USSR

KHRAMTSOV, N. N., Chief, Division of Forest Protection, State Forest Management USSR

"Results and Prospects of Forest Protection"

Moscow, Zashchita Rasteniy, No 3, 1971, p 44

Abstract: In 1970 primary attention was paid to preventive measures for forest protection spelled out in "Sanitary Rules for USSR Forests" confirmed by the State Forest Management USSR. Chemical measures for the control of forest pests still comprise the principal method applied, but the use of chemical insecticides has been reduced considerably, mainly because of restrictions in the application of organochlorine compounds. In 1970 the extent to which chemicals were dispersed from aircraft was reduced more than threefold from the 1965 level. Chemical control of insect pests is being carried out mainly in coniferous forests. During recent years, use of chemical methods made it possible to eradicate completely foci of the Siberian silkworm

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USSR.

KHRAMTSOV, N. N., Zashchita Rasteniy, No 3, 1971, p 44

in Krasnoyarskiy Kray. As a result of eradication of this conifer pest, forest stands with a timber reserve of more than 30 million cubic meters were saved. Increased attention is being paid to safety measures in connection with the use of toxic chemicals and to the development and wider application of biological methods. The small-drop method of spraying has been introduced, in which only small amounts of concentrated solutions of insecticides in mineral oil are used. When applied in forests, this method results in complete eradication of foci of harmful insects, while useful insects are preserved as much as possible. Emphasis is being placed on widening the selection of insecticides that are harmless to human beings and to useful fauna. In addition to forest management research institutions, research institutes of the Ministry of Health, Ministry of Agriculture, and the Academy of Sciences are engaged in work on the improvement of the chemical method from this standpoint. Among biological measures being applied on a large scale are attraction to forests

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USSR

KHRAMTSOV, N. N., Zashchita Rasteniy, No 3, 1971, p 44

of insect-eating birds and protection and introduction of forest ants and other useful predators and parasitic insects. At the Institute of Forests and Wood, Siberian Department of the Academy of Sciences USSR, work is being done on the selection of the most effective forms of insectin for the control of the Siberian silkworm. Application of insectin in the field starting in 1973 is foreseen. Field tests of the virus of nuclear polyhedrosis and entobacterin, which have been proposed by the All-Union Institute of Plant Protection and are to be applied in the control of leaf-eating forest pests (gypsy moth, the green oak roller moth), will begin in 1971.

3/3

Acc. Nr: **AP0100219**

K

Ref. Code: **UR 0289**

PRIMARY SOURCE: Izvestiya Sibirskogo Otdeleniya Akademii Nauk
SSSR, No 2, Seriya Khimicheskikh Nauk, 1970,
Nr 1, pp 37-44

L. K. Chuchalin, Z. A. Grankina,
S. P. Khranenko, B. I. Peshchevitskiy

**INFRA-RED STUDY OF THE COMPOSITION AND STRUCTURE
OF HYDROXONIUM ION COMPOUNDS FORMED BY THE EXTRACTION
OF STRONG MINERAL ACIDS WITH TRI-*n*-BUTYL PHOSPHATE**

Infra-red investigation of the solvates of hydroxonium ion formed by the extraction of HTlCl_4 and HClO_4 with tri-*n*-butyl phosphate (TBP) has been made. Solvates $[\text{H}_3\text{O} \cdot 3\text{H}_2\text{O}]_{\text{aq, solv}}^+$, $[\text{H}_3\text{O} \cdot 2\text{H}_2\text{O} \cdot \text{TBP}]_{\text{solv}}^+$, $[\text{H}_3\text{O} \cdot \text{H}_2\text{O} \cdot 2\text{TBP}]_{\text{solv}}^+$, $[\text{H}_3\text{O} \cdot 3\text{TBP}]_{\text{aq}}^+$, $[\text{H}_3\text{O} \cdot 2\text{H}_2\text{O} \cdot \text{TBP}]^+$ have been found in extracts of HTlCl_4 and solvates $[\text{H}_3\text{O} \cdot 3\text{H}_2\text{O}]_{\text{aq, solv}}^+$, $[\text{H}_3\text{O} \cdot 2\text{H}_2\text{O} \cdot \text{TBP}]_{\text{solv}}^+$, $[\text{H}_3\text{O} \cdot \text{H}_2\text{O} \cdot 2\text{TBP}]^+$, $[\text{H}_3\text{O}^+ \cdot \text{H}_2\text{O} \cdot \text{TBP} \cdot \text{ClO}_4^-]$ in extracts of perchloric acid. With increase of acid concentration in organic phase, each preceeding form turns into subsequent one.

REEL/FRA
19841609

7Kc

USSR

LAZEBNIK, A. I., KHRANOVICH, I. L.

"Solution of the Generalized Travelling Salesman Problem by the Method of Branches and Bounds"

Ekonomika i mat. metody [Economics and Mathematical Methods]. 1973, 9, No 2, pp 563-564 (Translated from *Referativnyy Zhurnal - Kibernetika*, No 8, 1973, Abstract No 8 V499 by Ye. Gabovich)

Translation: Two details are discussed in the solution of the travelling salesman problem, as well as a number of its generalizations, by the method of branches and bounds. The supplementary problems of assignment are to be solved by a general purpose analog computer or a special analog computer designed to determine trajectories of extreme length. It is noted that the solution of all these supplementary problems can be produced by analog computers practically instantly. A slightly altered branching plan is also suggested, providing for successive subdivision into nonintersecting subsets. No report is made on the realization of the algorithm by an analog-digital complex, and the requirements based on such a complex are not formulated. The generalization of the travelling salesman problem discussed

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USSR

LAZEBNIK, A. I., KHRANOVICH, I. L., *Ekonomika i mat. metody*, 1973, 9, No 2, pp 563-564

as follows. First of all, the points of the graph of cities are divided into two groups and the travelling salesman must visit all cities in the first group, but may fail to visit some or all of the cities of the second group. Secondly, the travelling salesman can visit the same cities many times, although the number of passages through certain cities and along certain routes may be given upper or lower limits. For each such generalization, a formulation is presented of the corresponding "assignments problem" used to determine the lower boundaries in branching.

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1/2 029
UNCLASSIFIED
TITLE--CHEMICAL STRUCTURE OF ALPHA,BETA,DIFLUOROSTILBENES -U-
PROCESSING DATE--13NOV70
AUTHOR--(03)-YEGOROV, YU.P., KHRANOVSKIY, V.A., YAGUPOLSKIY, L.M.
COUNTRY OF INFO--USSR
SOURCE--TEOR. EKSP. KHIM. 1970, 6(1), 90-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, STILBENE, CONJUGATE BOND SYSTEM,
MOLECULAR STRUCTURE, BENZENE DERIVATIVE, UV SPECTRUM, IR SPECTRUM, RAMAN
SPECTRUM, CYCLIC GROUP
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1070
STEP NO--UR/0379/70/006/001/0090/0094
CIRC ACCESSION NO--AP0128497
UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0128497
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UV, IR, AND RAMAN SPECTRA OF
ALPHA,BETA,DIFLUOROSTILBENE (I) AND ITS 4,4',DI,ME DERIV. (II) ARE
COMPARED TO THOSE OF 1,2,DIPHENYLETHYLENE. FLUORO SUBSTITUTION CAUSES
A SUPERIOR CONJUGATION ON THE CENTRAL DOUBLE BOND, BUT WEAKENS THE
EXOCYCLIC C-C BONDS. WITH BOTH I AND II, TRANS CONFIGURATIONS AND
TWISTED PHENYL GROUPS (BY 25DEGREES FROM THE MUL. PLANE) WERE FOUND.
FACILITY: INST. ORG. KHIM., KIEV, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--USE OF A CHROMIUM CONTAINING CONCENTRATE TO IMPROVE THE SURFACE OF
STEEL CASTINGS -U-
AUTHOR--(03)--MAYOROVA, L.I., KRYLOVA, S.SH., KHRAPACH, I.P.

COUNTRY OF INFO--USSR

SOURCE--LITEINOE PROIZVOD. 1970, 2, 38

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CAST STEEL, CHROMIUM CONTAINING ALLOY, FOUNDRY TECHNOLOGY,
PROTECTIVE COATING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1996/1739

STEP NO--UR/0128/70/002/000/0038/0038

CIRC ACCESSION NO--AP0118717

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118717

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW MIXT. WAS PRODUCED WHICH WAS USED AS A COATING FOR THE PROTECTION OF STEEL CASTINGS FROM PITTING. THE MIXT. CONSISTS OF A 100PERCENT CR CONCENTRATE, 15PERCENT CLAYEY PASTE (4PERCENT MOISTURE), AND A 5PERCENT SULFIDE ALC. WASTE LIQUOR. ITS CHEM. COMPN. IS CR SUB2 0 SUB3 62.48, SIO SUB2 1.6, CAO 0.2, FE SUB2 0 SUB3 13.58PERCENT, OTHER COMPOS. 1.5PERCENT, MOISTURE CONTENT 0.04PERCENT. THE MOLDS ARE COATED WITH THE MIXT. TO A THICKNESS OF 20-30 MM AND THEN DRIED AT 350-400DEGREES.

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UDC: 519.1

KHRAPCHENKO, V. M.

"Quadratic Lower Bound of Complexity Based on Continuity of the Second Derivative"

Moscow, Probl. kibernetiki--sbornik (Problems of Cybernetics--collection of works), vyp. 26, "Nauka", 1973, pp 203-206 (from RZh-Matematika, No 9, Sep 73, abstract No 9V451 by O. Lupanov)

Translation: With the use of a general method developed by the author of the paper (RZhMat, 1971, 5V461) it is proved that in the approximate calculation of smooth functions $f(x)$ of a real variable ($f''(x)$ is continuous and $f''(x) \neq 0$) the most significant digits (which are Boolean functions of binary digits not everywhere defined in approximate assignment of x) are realized by formulas in basis $\{V, \&, -\}$ with at least quadratic complexity relative to the number of arguments.

The author notes that the conditions of the theorem are satisfied by all nonlinear analytical functions and, in particular, by x^2 and $1/x$ whence follow the corresponding bounds for the complexity of calculating the digits of a product and quotient.

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USSR

UDC 539.3

KHRAPKOV, A. A.

"Integral Fredholm's Equation of the First Fundamental Problem of Elasticity Theory for a Body Resting on a Half-Plane Along Part of the Rectilinear Segment of the Boundary"

Izv. VNIi gidrotekhn. (News of the All-Union Scientific Research Institute of Hydraulic Engineering), 1971, 95, pp 125-136, 308 (from RZh-Mekhanika, No 10, Oct 71, Abstract No 10V28)

Translation: The paper deals with the first fundamental problem of the plane theory of elasticity for a body bounded from below by a horizontal rectilinear segment. Along part of the rectilinear segment, the body is connected with a half-plane of another material so that there are no mutual displacements of points of the body and of the half-plane. On the horizontal boundaries of the half plane and of a disk beyond the limits of the contact region, the boundary stresses are equal to zero, and their values are given on the remaining part of the boundary of the body. A general solution of the problem is given in the form of an integral of the Cauchy type, taken with respect to the contour of the body beyond the 1/2

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KHRAPKOV, A. A., Izv. VNII gidrotekhn., 1971, 95, pp 125-136, 308

residue for the given rectilinear section. In order for the constructed solution to satisfy the boundary conditions of the first fundamental problem of elasticity theory, it is necessary and sufficient for the density of the Cauchy integral to satisfy some Fredholm's integral equation of the second kind. Author's abstract.

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UDC: 621.317.763(088.8)

KHRAPKO, A. M.

"A Waveguide Cavity Wave Meter"

USSR Author's Certificate No 248797, filed 13 Jun 68, published 15 May 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A343 P)

Translation: In the cm wavelength range, waveguide wave meters of the absorption type are used which consist of a cavity resonator and two elements for coupling it to a supply line. In the submillimeter wavelength range, where multiple-mode waveguides are used, these resonators cannot operate normally. A special resonator design is proposed which permits operation of a wavemeter in the submillimeter wavelength range. E. L.

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USSR

UDC: 621.317.382.023

VOSKOBOYNIK, L. B., KHRAPKO, A. M.

"A Thin-Film Bolometer for Measuring Power in the Submillimeter Wavelength Range"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific and Technical Collection. SHF Technology), 1970, vyp. 11, pp 111-116 (from PZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A330)

Translation: The authors present the design and parameters of a thin-film bolometer designed for measuring low power in the submillimeter wavelength range. A special feature of the bolometer is the fact that it is made on the basis of an oversize waveguide with a cross section of 3.6×1.8 mm which permits propagation of many modes. The bolometer is studied in the 0.3-0.8 mm wavelength range.

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USSR

UDC: 621.372.852.1:621.372.413

KHRAPKO, A. M., KUDYAN, G. F.

"Band Filters for the Millimeter Wavelength Range Based on Open Resonators"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific and Technical Collection. SHF Electronics), 1970, vyp. 3, pp 106-113 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B141)

Translation: The authors consider an open resonator of the feed-through type with spherical reflectors, which is used as the simplest type of band filter in the millimeter wavelength range. Designs are given as well as the results of an experimental investigation of a tunable band filter for the 1.65-2.55 mm wavelength range. The band of the filter varies over a range from 100 to 30 MHz. Three illustrations, three tables, bibliography of eight titles. Résumé.

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